

NATURALLY KENTUCKY

KENTUCKY STATE NATURE PRESERVES COMMISSION

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Aliens Among Us

By Joyce Bender



To most people, the words "alien invasion" conjure up images of some science fiction movie. The horrors of space invaders are the figments of a screenwriter's imagination run wild, but the devastation from alien plants is only too real. The United States is being invaded by aliens -- exotic plants that are not native to this country. Introduced from Europe, Asia, or elsewhere, these non-native species invade our natural areas and our croplands. With no natural predators to control their numbers, invasive exotic plants proliferate at the expense of our native species. They eliminate the beauty of our spring woodlands and displace wildlife by out-competing native species for space, light and nutrients. They cause serious economic damage as well, reducing profitable harvests and ruining pasture land. Invasive exotic plants are considered to be one of the leading threats to natural biodiversity, second only to habitat destruction.

Invasive exotics are plants out of place; they are found beyond the limits of their potential natural distribution. There are a number of ways for a plant population to spread naturally. Some species can grow from fragments of roots or runners that break free of the parent plant; some species have seed coats with hooks that catch on animal fur; some seeds have hairs that enable

them to float on the breeze. None of these methods alone are likely to account for the presence of the exotics that plague our country. With assistance from humans, either by accident or on purpose, these plants have moved beyond the continent of their origin and crossed an ocean to take up residence. Brought as seeds to our shores in a ship's ballast of rock and soil or planted as a contaminant among the seeds of a valued food crop, these invasive exotics moved inland as transportation routes improved and more land was settled.

In Kentucky everyone may not know garlic mustard and oriental bittersweet, but most folks have encountered kudzu and Japanese honeysuckle. These species and others have become major pests in natural areas across the state. As Stewardship Coordinator for the Kentucky State Nature Preserves Commission, it is my responsibility to control the establishment and spread of exotics on the 39 nature preserves in the state system. Our three regional preserve managers and two eight-month seasonals are doing their best to curtail the spread of kudzu, sweet clover, garlic mustard, bush honeysuckle, Japanese honeysuckle, oriental bittersweet, stilt grass, Japanese knotweed and musk thistle on the state nature preserves. The work is hot, tiring and expensive. In just the past year we have spent over \$11,000 in staff salary and herbicides to combat this problem. We need more staff to assist in scouring the preserves to identify other problem species and to monitor the effectiveness of our control efforts.

Many of these species require several years of treatment before we can declare success. We have been working on kudzu for the longest time and our efforts are paying off. Hillsides at Vernon-Douglas State Nature Preserve (SNP) that once were curtains of green vines are returning to native cover. We are close to eliminating populations of kudzu at Blanton Forest SNP and Pine Mountain State Park Nature Preserve. Musk thistles are few and far between at Raymond Athey Barrens SNP since we began concerted efforts to eradicate this species from our grassland areas. There is more encouraging news from other preserves, but we still have much more work to do.

Even if we could tackle all of the current pests within our preserves, the job won't get easier because there are more exotics gathering on the preserve borders and at the state line as well. Spotted knapweed has been pulled up from the edges of Eastview Barrens SNP. Purple loosestrife has been observed in roadside ditches along I-64 (a perfect distribution corridor). Mile-a-Minute weed (think kudzu with barbs!) has been found in Ohio and West Virginia, and Tropical Soda Apple (an aggressive invader of open pasture and fields) is in Tennessee.

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Director's Update

By Don Doff

The June Commission meeting was held in the freshly renovated (finishing work was still underway!) city hall building in downtown Maysville located on the Ohio River in Mason County. (This picturesque town should be on your list of sites to visit if you are interested in historic towns.) This was a convenient location for the meeting following our tour of the newly dedicated Crooked Creek Barrens State Nature Preserve in adjacent Lewis County. During a ribbon cutting ceremony, State Representative Robin Webb and Lewis County Judge/Executive George Plummer helped dedicate the preserve with an official snip of the scissors. The weather was near perfect that morning and the June dedication date preceded the current drought conditions, so the vegetation was still lush. Indian paintbrush is fairly common at the preserve and although it had already finished blooming, a few stragglers held on to impress us. We visited areas the stewardship staff had burned this spring, which are being monitored to assess the results of fire on this ecosystem. The dedication was followed by a hike around the preserve and a visit to adjoining areas we hope to acquire, before heading to Maysville for lunch and the Commission meeting.

The formal dedication and signing of the Articles of Dedication for Crooked Creek Barrens State Nature Preserve were taken care of by the Commissioners. The staff presented their reports and updates. There was discussion of the Black Mountain settlement negotiations and the expected role of KSNPC to conduct biological inventories on the mountain. These negotiations have progressed substantially as reported in the newspapers, but still have a long way to go to reach fruition. Blanton Forest State Nature Preserve was discussed and our great fortune at obtaining an option to acquire over 1200 acres of old growth forest. The next step of raising funds for the purchase is well underway. We are working with the Kentucky Natural Lands Trust to begin fundraising, as we did for the original Blanton Forest tract. We subsequently obtained an option on a very important 700 acre tract of land continue to seek acquisition of other adjacent tracts, primarily for buffer land.

KSNPC received a very generous offer from Dick and Susan Richards in Scott County. They offered to leave to us in their will 400 acres of mixed pasture and forest, and additional acreage of a farm and homestead. The purpose of this gift is to ensure preservation of the 400 acres as a natural area in rapidly developing Scott County. Equally significant is the added feature of an endowment that would provide funds to pay the costs of managing the area after it is transferred to KSNPC ownership.

The endowment is a critical factor that can make acceptance of such an offer feasible for KSNPC. It is not uncommon for us, The Nature Conservancy, the Kentucky Department of Fish and Wildlife and other entities that manage natural lands to receive offers of farm land or natural areas that would be given via a will. But the landowner often does not realize that without funding to provide for land management (which can be substantial to restore or preserve natural conditions, ensure protection against such things as vandals and encroachments, provide public access, etc.), we cannot responsibly accept such gifts, however generous they may be in the eyes of the donor. We are continuing to work with these farsighted landowners to make their offer a reality - and to create a future natural area/nature preserve for Scott County. They certainly deserve our thanks and appreciation for their philanthropy and dedication to preserving a natural area in Scott County.

Our third quarterly meeting was held in Paducah on September 8th. It was the first meeting attended by our new Commissioner David Wright of Louisville. It gave him an opportunity to meet the other commissioners, hear directly from staff about the various activities they are engaged in, and to be apprised of our current acquisition priorities. Five different preserve designs, our basic preserve planning tool for each nature preserve, were presented to the Commission and approved. A recipient for the 1999 KSNPC Biodiversity Award was approved, as were two new Commission advisors, all whom will remain anonymous until they have been personally notified. Two guests attended, Ballard County Judge/Executive Bob Buchanan and a retired biologist with the Illinois Nature Preserves Commission. The 4th quarterly Commission meeting was scheduled for Wednesday, December 8, at 10:00 a.m. in the Frankfort office of KSNPC.

The morning after the Commission meeting took us out-of-doors. Most of the field trip was spent in canoes on Axe Lake, which is privately owned by a hunting club and located adjacent to our nature preserve of the same name. The hunting club graciously provided boats for our tour of the lake, which is part of the 3,000 acre Axe Lake wetland complex. This 100+ acre lake is surrounded by a predominance of tupelos and a smaller percentage of bald cypress. We expect in the very near future to add 240 forested acres on the west side of Axe Lake Swamp to the existing 146 acres of the preserve. The new boundary will run along the eastern shoreline of Clear Lake, which is also part of this unique wetland complex.



The Natural Heritage Program Network

By Amy Covert

As many of you know, the Nature Preserves Commission houses the Natural Heritage Program for the state of Kentucky. The Natural Heritage Program network was created by The Nature Conservancy in the early 1970s, and Natural Heritage Programs exist in all 50 states. International counterparts to the Natural Heritage Programs, called Conservation Data Centers (CDCs), exist in Canada, Latin America, the Caribbean, and South America. All heritage programs collect data and maintain computer databases, maps, and manual files on rare plants, animals, natural communities, and other areas of ecological significance found within their political jurisdictions. Together, these organizations represent the largest ongoing effort in the Western Hemisphere to collect standardized data on our threatened natural resources.

All programs in the heritage network utilize a common, standardized methodology to track its state's rare plants, animals, and natural communities. Using this methodology allows all heritage programs to communicate with one another easily - to measure biological diversity with the same "yard stick," if you will. A significant result of using standardized methods has been the growing ability of the network to evaluate the status of biodiversity at national, continental, and hemispheric scales. KSNPC currently monitors 350 species of plants, 25 gastropods, 63 mussels, 19 crustaceans, 46 insects, 63 fishes, 11 amphibians, 18 reptiles, 49 birds, 15 mammals, and 54 types of ecological communities. There are nearly 10,000 records for these rare species and communities in our database.

In 1994, the Association for Biodiversity Information (ABI) was created as an "umbrella group" to represent and

support programs within the heritage network. The mission of ABI, or "Abbey", as this acronym is referred to, is to act as a collective voice for the heritage network, set data management protocols, share resources and expertise, and to make biodiversity information more accessible and useful. ABI recently began disseminating multi-jurisdictional data sets (MJDs) to fill contracts with parties such as the US Fish and Wildlife Service. Data sets are collected by ABI from numerous heritage programs, then distributed as one product for a fee. By participating in MJD projects through ABI, individual heritage programs are able to receive more funding than if they all provided data as separate sources. As the heritage network evolves and ABI takes on more MJD projects, our hope is that the network's extensive knowledge of our vanishing natural resources can be better used to protect these unique elements of biodiversity.

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What can you do to help with this serious threat? Buy native plants when landscaping your home. There are numerous native species that will provide the color, interest and wildlife values you are looking for. Ask questions at the nursery about the invasive tendencies of any ornamentals you are considering for purchase. Work on eradicating invasive exotics from your property and volunteer with your local park or state nature preserve to control exotics. Support the Kentucky Chapter of the Southeast Exotic Pest Plant Council (SE EPPC). The SE EPPC is the blanket organization for citizens in Tennessee, Kentucky, North Carolina, Florida, Georgia, and South Carolina who are interested in promoting public awareness regarding exotic pest plants and their control, facilitating actions to control and monitor exotics, and in providing means to exchange information on control and management of exotics.

The Kentucky Chapter is just taking shape and will soon be working to promote the message of the Council. Presently, we

are developing a list of exotic species that are the most threatening to Kentucky's natural areas. This list will serve as the framework for another important goal: passing legislation that formalizes a state noxious weed list and developing the means to add species to it. Additional goals are to develop educational materials that detail threats to Kentucky's natural areas and provide native plant alternatives for landscaping, as well as developing a weed alert network to help natural areas managers keep up with new invasions.

**If you would like more information on exotics, please contact Joyce Bender at the Commission's main office:
801 Schenkel Lane in Frankfort .
Phone: 502 573-2886
e-mail: Joyce.Bender@mail.state.ky.us.**

U.S. Army Corps of Engineers Registers Stillhouse Branch State Natural Area

By Barry Howard

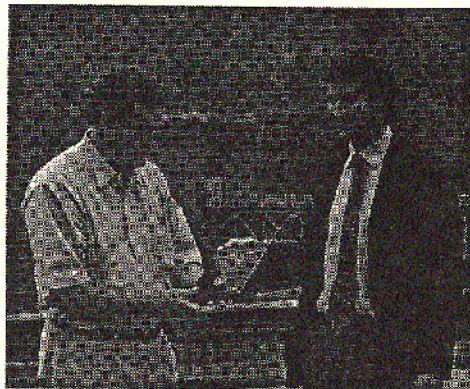
Kentucky's system of officially recognized natural areas expanded this past spring with the US Army Corps of Engineers' (USACOE) decision to place 105 acres near Buckhorn Lake on the Kentucky Register of Natural Areas. The establishment of this register was one of the duties entrusted to the Kentucky State Nature Preserves Commission (KSNPC) by the state legislature when the Commission was established in 1976. Registry of this site brings the total number of registered natural areas to 46, and the total registered acreage to 4,813.

Stillhouse Branch is a small "hollow" that adjoins Buckhorn Lake in Perry County. This site is near the dam and roughly 4 miles downstream from Buckhorn Lake State Park. This lake was formed by impounding the Middle Fork of the Kentucky River in 1961. The 1,230 acre lake and 3,740 acres of surrounding land are owned and managed by the USACOE.

Danny Barrett, Operations Manager for the USACOE Upper Kentucky River Area, brought this site to the attention of KSNPC. Ecologists Martina Hines and Aissa Feldmann inspected Stillhouse Branch last winter and determined that this was a high-quality natural area worthy of inclusion in the state's official register of natural areas. Robert G. Fuller, Operations Chief of the USACOE Louisville District, agreed to place this land on the register and visited Buckhorn Lake to participate in a small ceremony to acknowledge the listing of Kentucky's newest state-recognized natural area.

Owners of natural areas placed on the KSNPC register agree, to the best of their ability, to maintain and preserve these special places in their natural condition. Owners agree not to alter these areas in a manner detrimental to their ecology and to

notify KSNPC of any threats to these areas. The registry agreement involves no change or loss of ownership rights and is completely non-regulatory in nature.



Robert Fuller, U.S. Army Corps of Engineers along with Donald S. Dolt, KSNPC Director during the ceremony acknowledging Stillhouse Branch as a State Natural Area.

The Stillhouse Branch site encompasses the watershed of a small drainage that empties into Buckhorn Lake. The lower slopes of this site are in large part covered by a forest of 40 to 50 year old tulip poplar (*Liriodendron tulipifera*), indicating a past history of intensive cultivation (most likely corn). Many large trees are encountered as one ascends the slopes. It is likely that on these upper slopes any cutting of timber earlier in this century was done on a very selective basis.

KSNPC ecologists consider the forest on the upper slopes of Stillhouse Branch to be a high quality occurrence of an Acidic Mesophytic Forest. Some of the trees that dominate the canopy in this forest include sugar maple (*Acer saccharum*), beech (*Fagus grandifolia*), tulip poplar (*Liriodendron tulipifera*), and red oak (*Quercus rubra*). Other trees encountered at this site are yellow buckeye (*Aesculus octandra*), shagbark hickory (*Carya ovata*), black walnut (*Juglans nigra*), cucumber tree (*Magnolia acuminata*), black oak (*Quercus velutina*), chestnut oak (*Quercus prinus*), and pignut hickory (*Carya glabra*). A good number of very

large trees (greater than 30 inches in diameter at breast height) are found here.

Stillhouse Branch is one of four sites owned by USACOE currently on the register of natural areas maintained by KSNPC. The other three are a great blue heron (*Ardea herodias*) rookery on Lake Barkley in Lyon County, the site of a former heron rookery on Shippingport Island in Jefferson County, and the only known Kentucky location of large-leaf grass-of-parnassus (*Parnassia grandifolia*) in Clinton county. Although most Kentuckians are more familiar with the role played by the USACOE in developing and maintaining water related resources, this federal agency owns and manages roughly 100,000 acres of land adjacent to some of the state's largest lakes. KSNPC is very encouraged by the leadership and concern displayed by USACOE officials relating to stewardship of all the resources under their control.

There are currently no trails at Stillhouse Branch State Natural Area. Consequently, this site is not presently accessible to the general public.

For more information on the Kentucky Register of Natural Areas, contact Barry Howard at 502-573-2886. (e-mail Barry.Howard@mail.state.ky.us). For more information about recreational opportunities at Buckhorn Lake call 606-398-7858.

THE KENTUCKY LARGE FOREST BLOCK PROJECT

By Marc Evans

How big are the largest expanses of contiguous forest in Kentucky and where do they occur? Does Kentucky have blocks of forest (without roads or other features that significantly break the forest canopy) that are 1,000, 5,000, 10,000 or more acres in size and how many? No one seems to know, but hopefully that will all change soon as a result of the Kentucky Large Forest Block (LFB) project.

The Kentucky State Nature Preserves Commission monitors plant and animal species and ecological communities that are considered rare in the Commonwealth. Part of our mandate is to protect the biological diversity of Kentucky and we do this through several methods. First, we conduct statewide inventories for rare plants and animals and high quality ecological communities. We then record the known occurrences of these elements in our natural heritage database. This enables us to track or monitor them and this information is utilized in the environmental review process to reduce impacts from various types of developments. These data are also used to help us select the best places to protect as state nature preserves.

Identifying and tracking large blocks of forest is a relatively new idea and something the Commission has not done in the past. Although Kentucky is still about 50% forested, most of these "forests" occur as small woodlots; larger areas of forest are fragmented by roads, power lines or agriculture fields. So how do we determine where and how large the remaining forest blocks are? In the recent past we would have manually

measured forest areas from aerial photographs or topographic maps. This would be a tedious and time-consuming task. Today, however, we have the advantage of Geographic Information System or GIS. These powerful applications assemble various data and display them atop digital maps. Utilizing this technology will allow us to identify remaining LFBs much more quickly, efficiently and accurately than by manual methods.

Large tracts of relatively unbroken forest are important for a number of reasons. Many species of plants and animals require large areas of forest to maintain stable populations. Research has shown that many neotropical migrant birds require large interior forest areas to successfully reproduce and maintain population levels. Fragmented forests often lack various plant and/or animals necessary to perform ecological processes. In addition, smaller forested areas are heavily influenced by the forest edge which allows invasion of exotic weed species as well as cowbirds, which parasitize the nests of many forest birds.

Several other states have conducted large forest block inventories and found some interesting results. In Illinois, only 40 blocks of forest 500 acres or larger exist. The largest block of forest was only a little over 7000 acres. We hope that the results of this project in Kentucky will reveal that we have many more LFB's than Illinois. Stay tuned as this project progresses. We'll let you know what we discover.

Staff Updates

By David Skinner

The newest member of the Stewardship Program is Strider Deaver. On August 2 Strider began as a Preserve Management Worker. Strider is a graduate of Berea College and received a B. S. in Agriculture and Natural Resources earlier this year. As a student at Berea, Strider worked as Forestry Technician on the Berea College Forest where he performed many of the same duties that he will undertake while working with other stewardship staff on our nature preserves. Strider's strong work ethic and desire to be a good steward of the land will ensure that our State Nature Preserves will be well cared for.

We regret to report that Aissa Feldmann has left KSNPC for greener pastures! She has decided to take a walk on the "wild side" by doing primate research in India. Aissa worked with Marc Evans, Senior Ecologist, working primarily in the field conducting natural areas inventories for the past two years. Aissa will be missed and we all wish her the best!

JOYCE BENDER RECEIVES OUTSTANDING EMPLOYEE OF THE YEAR AWARD FROM THE NATURAL RESOURCES AND ENVIRONMENTAL PROTECTION CABINET

By Gail McGee

Congratulations to our own Joyce Bender, Stewardship Coordinator! Joyce was recently selected to receive the Outstanding Employee of the Year Award. Each year, employees are nominated for this award by a co-worker or supervisor. All nominations are reviewed by a committee made up of cabinet employees who select five employees to receive this award.

Joyce started with the Commission in 1986 as a Nature Preserve Field Representative and holds the same title today. Not the same *position*, but the same title. In the beginning, Joyce started out with no staff and could rely only on fellow employees, boy scouts and those doing prison work release or community service to assist her. Today, her Stewardship staff includes five full time employees, two interns and a host of volunteers. Joyce oversees the nature preserves statewide encompassing over 14,000 acres. She is

responsible for maintenance, exotics control, upkeep, trail construction and much more. Joyce and two of her staff are certified fire leaders and safely complete prescribed burns on the nature preserves that aid in the protection of certain fire-dependent communities. Joyce enlisted the Division of Forestry to assist in completing some of these projects while initiating a future partnering plan, and seeks to develop a working partnership with Tennessee for sites along the border.

Joyce is a leading force on the control and prevention of invasive exotic plant species in the southeast. Her work is exemplary. A strong passion for the environment fuels her commitment and dedication. She has natural leadership abilities and is relied upon for her knowledge. Joyce effectively communicates on any level, with people from all walks of life, landowners, volunteers, staff, or professionals. She is skilled at giving

presentations to both the general public and to her scientific peers. She works tirelessly to overcome adverse situations, budget cuts, loss of grants, and others that interfere with the mission of the Kentucky State Nature Preserves Commission and works well past the normal 7½ hours workday. Her dependability, willingness to serve, insight, knowledge and creativity make Joyce a truly indispensable member of our Commission.

Joyce has retained the same title for thirteen years, while her duties and responsibilities continue to grow, thus making the Outstanding Employee award so appropriate. Joyce has definitely proven herself worthy of this award, which will be presented at the Governor's Conference on the Environment in Prestonsburg on November 9th.

Dates to Remember:

**December 9th, 10 a.m. - Commission Meeting
801 Schenkel Lane, Frankfort**

By Barry Howard

At the June 15 meeting of the Kentucky State Nature Preserves Commission (KSNPC), 60 acres in northwestern Lewis County were set aside as the latest addition to Kentucky's system of state nature preserves. Officially dedicated as the Crooked Creek Barrens State Nature Preserve, this land is part of a larger complex of "barrens" areas found nearby, most of which are still privately owned. This type of landscape is exceedingly rare in Kentucky and we hope to expand this preserve to include additional high quality barrens habitat and protect associated rare species.

Regular readers of this newsletter may remember earlier articles that referred to a site called "Hymes Knob." The new nature preserve is located on this knob, but the preserve was named for the larger, expanded site that encompasses all of the barrens in its proximity.

The term "barrens" is used by ecologists to refer to ecological communities that are naturally open mosaics of woodlands and grasslands. Other naturally open areas include prairies and glades. A barrens may be thought of as a somewhat intermediate type of habitat between a prairie and a glade. Prairies are usually characterized by deeper soils and a higher percentage of perennial species, whereas glades typically cover rocky substrates where the soils are so thin and poor that it is difficult for perennial plants to persist. A variety of environmental factors may influence the density of tree cover in a barrens. These include the availability of moisture, types of soils, and the presence of a naturally occurring fire regime.

A good number of the barrens areas within the larger Crooked Creek Barrens site, including one on the new preserve, occur on the south and southwest slopes of knobs and ridges. These areas are highly erodible and contain gullies and troughs which may be the result of past land use practices. Other barrens in this region are flat, or on more gently rolling terrain. The barrens are interspersed within a matrix of farmland and sub-xeric to xeric (somewhat dry to dry) forest dominated mainly by oaks and hickories.

Little bluestem (*Schizachyrium scoparium*) and other native grasses constitute the majority of the naturally occurring vegetation in these barrens. These areas also contain many broad-leaved herbaceous plants, some of which are very rare in Kentucky. Some of the rare plants found in various parts of the

Crooked Creek barrens are scarlet indian paintbrush (*Castilleja coccinea*), slender blazingstar (*Liatris cylindracea*), starflower false Solomon's-seal (*Maianthemum stellatum*), drooping blue grass (*Poa saltuensis*), and white rattlesnake-root (*Prenanthes alba*). Just last fall, while inspecting the boundary of the new nature preserve, Dave Skinner (KSNPC eastern regional nature preserves manager) discovered the ear-leaved foxglove (*Agalinis auriculata*), which had never before been reported from Kentucky.

KSNPC biologists have identified several significant barrens areas within a "preserve design" for Crooked Creek Barrens. Preserve design is the process we use to document and define important characteristics of high quality natural areas. This process includes outlining the spatial extent of natural areas and the land needed to protect them. The core barrens areas identified in the preserve design plus the buffer lands adjacent to them cover approximately 400 acres. If all of the land connecting these barrens is included, it is feasible to envision a larger natural area at this site that covers over 1,300 acres.

Although there are barrens in other parts of Kentucky protected within state nature preserves, there is an opportunity at Crooked Creek Barrens to protect extensive barrens habitat in a landscape scale nature preserve. We have already contacted owners of additional high quality barrens habitat, and we hope in future years to significantly expand this preserve. Other landowners and neighbors in this area have been supportive of our efforts, and are very interested in the fact that there is a state significant natural area in their community.

Crooked Creek Barrens State Nature Preserve is the 38th site that has been dedicated as part of Kentucky's statewide system of nature preserves. Acquisition of this land was made possible through funding provided by the Kentucky Heritage Land Conservation Fund. This new preserve brings the total amount of land owned or dedicated by KSNPC to 14,226 acres.

Because we own only 60 acres at this site, and are managing it with prescribed fire, there are currently no trails at Crooked Creek Barrens and it is accessible to the general public only through pre-arranged guided tours. This preserve might be open to the public in future years if we are successful in acquiring additional land.

Preserve Spotlight - Blue Licks State Park Nature Preserve

By Paul Quinlan

Blue Licks State Park Nature Preserve in Robertson County (SPNP) holds a testament to the unique natural heritage of Kentucky. The federally endangered Short's goldenrod (*Solidago shortii*), found nowhere else in the world, grows only within a two-square mile area in and around the preserve. Blue Licks SPNP was established in December 1981 to protect this plant and its habitat. Dr. C. W. Short first described this Goldenrod in 1840 when he found it at the Falls of the Ohio in Jefferson County, Kentucky. It was not found there after 1870 and was not seen again until E. Lucy Braun rediscovered the goldenrod in 1939 near Blue Licks.

Originally, 15 acres within Blue Licks Battlefield State Park were dedicated as a state nature preserve on December 15, 1981. This tract features a buffalo trace, a limestone glade, and a young oak woods. The glade and buffalo trace provide habitat for Short's goldenrod and some prairie and glade species such as Great Plains ladies'-tresses (*Spiranthes magnicamporum*), false aloe (*Agave virginica*), black-eyed susan (*Rudbeckia hirta*), and hairy sunflower (*Helianthus hirsutus*). An additional 15 acres were dedicated in June 1998 to protect another population of Short's goldenrod. The addition features moist forested slopes and a drier, oak woodland on a ridge adjacent to the campground.

Mastodons and other pre-historic mammals, and later bison, were attracted to the salt licks on the banks of the nearby Licking River and grazed and trampled the surrounding area. It is believed that this disturbance helped Short's goldenrod survive by reducing competing vegetation and providing the open conditions required for its growth. The salt licks later attracted humans as well. Daniel Boone led a party of pioneers there in 1778 on a salt making expedition to refine salt from the brackish spring water that flowed from Lower Blue Licks Spring. Boone returned there in 1792 when the Kentucky Militia fought the British in the last battle of the Revolution. The Militia charged up the same buffalo trace that is within the park and nature preserve today. During the 1800s, wealthy southern families would travel to Blue Licks Spring to drink and bathe in the mineral waters, which were believed to have "health-giving" qualities.

The buffalo trace trail is open to the public year round for hiking and nature study. From Maysville, follow US 68 for 25 miles south to the park entrance. From Carlisle, follow US 68 for 10 miles north to Blue Licks Battlefield State Park. Then park at the nature center and enjoy the trail! The Kentucky Department of Parks recently opened its newest lodge at Blue Licks State Park, featuring a popular restaurant and excellent accommodations for an overnight visit.

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The Natural Resources and Environmental Protection Cabinet does not discriminate on the basis of race, color, national origin, sex, age, religion, or disability and provides, upon request, reasonable accommodations including auxiliary aids and services necessary to afford an individual with a disability an equal opportunity to participate in all services, programs, and activities.

It is the mission of the Kentucky State Nature Preserves Commission to protect Kentucky's natural heritage by: (1) identifying, acquiring, and managing natural areas that represent the best known occurrences of rare native species, natural communities, and significant natural features in a statewide nature preserves system; (2) working with others to protect biological diversity; and (3) educating Kentuckians as to the value and purpose of nature preserves and biodiversity.

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